

# BEST PRACTICES FOR WATER QUALITY TRADING JOINT REGIONAL AGREEMENT

## Discussion Guide, August 8<sup>th</sup>, 2013

This Discussion Guide is intended to provide definitions, context, analysis, and options for addressing various components of water quality trading programs (e.g. trading ratios, BMP quality standards). It poses questions that will be discussed at the interagency workshops. This document may reference other trading programs, examples, or documents, but is not intended to serve as a published report or white paper and thus will not be extensively cited. This document will be included in the workshop packet and posted online following each workshop.

## 5. Permitting, Compliance, and Enforcement

This section describes the NPDES permit in general, the various “Schedules” (sections) of the permit, and where specific trading program activities and elements (e.g., monitoring) could be integrated into these Schedules. Other topics investigated here include determining where compliance with the trading program is described in the permit, how compliance is determined, and how a lack of compliance may be enforced. This Discussion Guide is meant to build off EPA Permit Writers Toolkit. Examples of permit language related to trading have been reviewed in 8 permits. A summary of this review is included as an appendix to this discussion guide. The permits themselves, with trading language highlighted, are available on the JRA project website and by request.

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The following topics will be integrated into the discussion as the various Schedules are described:

- 1.) Applicable regulated entity permit conditions: The obligation of regulated entities to comply with all conditions, duties, and requirements for which they are responsible, including the liability for permit non-compliance resulting from an insufficient credit balance.

- 2.) Requirements at discharge point: Regulated entity's obligation to monitor their point(s) of discharge at required intervals to ensure compliance with near-field regulations and other applicable laws and regulations.
- 3.) Adaptive management: Trading programs may incorporate new information on protocols, credit quantification methodologies, and other quality standards as developed.
- 4.) Effectiveness Monitoring: Trading programs may design a monitoring program to determine the program's overall effectiveness at improving water quality.
- 5.) Non-compliance with credit generation standards: Responsibility and liability for site rehabilitation in situations where a project site is found to be out of compliance with applicable standards due to site degradations or force majeure. Mechanisms for allocating the cost of project rehabilitation (e.g., cost allocated between parties via contract).
- 6.) Notice and opportunity to remedy non-compliance: Process for addressing and remedying non-compliance with a credit generating project standard.
- 7.) Failure to cure: Consequences for the project developer if noted non-compliances are not adequately addressed (e.g., credits being recalculated to reflect diminished credit generating capacity) or credits being suspended from a regulated entity's credit ledger.

## 5.1 National Pollutants Discharge Elimination System (NPDES) Permit

The NPDES permit is the primary regulatory tool in the Clean Water Act and federal water quality regulations to control wastewater discharges to waters of the United States and the respective states (i.e., jurisdictional waters)). It is within the permit that EPA or delegated water quality regulatory agencies place specific requirements for point sources discharging treated effluent. The federal and delegated agencies' regulations describe in detail what needs to be in a permit and both federal and state guidance exists to describe step-by-step what a permit writer needs to consider in developing a permit. The permit provides the point source with permission to discharge pollutants into jurisdictional waters, contingent upon required treatment within established pollutant loads and concentrations limits and detailed monitoring and reporting requirements to explicitly show compliance with the established limits in order to achieve water quality standards. If a permitted source cannot meet specified effluent limits at the time the permit is issued, the permit will also contain a compliance schedule identifying when the permittee will be in compliance with the permit. Depending on the length of time needed to come into compliance, the permit may also identify interim milestones and/or interim effluent limits the facility will achieve.

In addition to establishing specific effluent limits, the permit may require a permittee to develop and implement other supporting programs required under federal or delegated agency rules. This could include, among other things, a pretreatment program, a reuse program, or a biosolids program. The development and implementation of a trading program is similar in nature to these programs as it describes specific actions the permittee will take to come into compliance with the federal or delegate agency requirements.

In the case of a water quality trading program, the permittee is developing and implementing a program which will allow it to achieve compliance with its prescribed effluent limitations. As such, the permit should have specific information placed in Schedule A to allow the permittee to proceed with a trading program and use it to achieve compliance with the limitations. However the trading program itself will have requirements germane to the development and implementation of the program (e.g., to obtain and maintain trading credits, to assess project sites, evaluate BMP implementation, and other trade program components). The permit writer has the discretion to determine what components of the trade program to include in the NPDES permit and where those components will appear.

The following outline generally depicts the NPDES permit Schedules and the information usually contained in each schedule. A water quality trading program may be reflected in some of the permit Schedules depending on the status of the trading program and the specific requirements which have been pulled from the trading program and reflected in the permit. The trading program status will be determined by the amount of work completed on the development of the program at the time of permit issuance. If the permit contains a new water quality based effluent limit (WQBEL) for a TMDL parameter, it may also contain a time frame for the permittee to develop treatment options to meet the new limit. Consequently, the permittee may be required to evaluate options, and then select, design and build the selected option under a Schedule C compliance schedule. In this case, little may be known about the trading program and the permit would need to be modified at a later date to contain the specifics of the trading program. In another situation, the permittee may have evaluated the various treatment options prior to submitting its permit renewal application and therefore it included a completely developed trading program in the application (that the permit writer would include in appropriate Schedules of the permit). There are any number of situations between these two end-posts and so each permit would include different levels of detail based on the information available at the time of permit issuance.

Below is a general outline of a typical NPDES permit:

**Schedule A - Waste Discharge Limitations Not to be Exceeded**

- Technology Based Effluent Limits (TBELs)
- Water Quality Based Effluent Limits (WQBELs)
- Reasonable Potential Analysis
- Total Maximum Daily Load (TMDL) – Waste Load Allocations (WLAs)
- Permit Shield and Regulatory Mixing Zone
- Recycle Wastewater Requirements
- Permitted Outfall Locations

**Schedule B - Minimum Monitoring and Reporting Requirements**

- TBEL Monitoring
- WQBEL Monitoring
- Toxics Monitoring required by 40 C.F.R.
- Stormwater Monitoring Program
- Biosolids and Sewage Sludge Management Plan Monitoring
- Reuse Water Management Plan Monitoring
- Reasonable Potential Analysis (RPA) Monitoring Program
- WLA Program Compliance Monitoring
- Water Quality Trading Compliance Monitoring Program

**Schedule C - Compliance Schedule**

- Schedules and Milestones for meeting new effluent limits
- Schedules and Milestones for conducting needed monitoring
- Schedules and Milestone for conducting planning

- Reopener Clause and Current language for compliance schedules

#### Schedule D - Special Conditions

- Schedule and Milestones for requirements other than those associated with effluent limitations
- Operator Certification Program Requirements
- Biosolids and Sludge Management Plan
- Reuse Water Management Plan
- Inflow and Infiltration Reduction Program
- Whole Effluent Toxicity Testing
- Water Quality Credit Trading Program

#### Schedule E - Pretreatment Activities (as required for specific Municipal permittees)

- Identification of pretreatment requirements and any schedules or milestones for the community

#### Schedule F - NPDES General Conditions – Domestic Facilities

- Identification of all the standard general conditions that need to be addressed by any municipal NPDES community receiving an NPDES permit

## 5.2 Schedule A - Effluent Limits

Schedule A is the heart of the NPDES permit. It contains the specific effluent limits (either technology based or water quality based) which must be achieved by the permittee at the end of the discharge pipe, at the downstream boundary of the zone of immediate dilution, or at the downstream boundary of the regulatory mixing zone. In the case of a TMDL, the WLA for a specific parameter and the effluent limits necessary to achieve the WLAs are placed in Schedule A. Consequently, for a trading program, the Schedule would contain a condition describing the trading parameter, its units and the number of credits needed to offset the established effluent limitations. In other words, if the effluent discharged is going to exceed the WLA for a permittee, the permit should indicate that the permittee will be in compliance with the relevant effluent limitation by trading for credits to offset the pollutant load exceeding the effluent limitation.

The trading program provides credits which will offset the discharge of a particular pollutant by the permittee. Schedule A is the key permit section setting the foundation for the trades to take place. This section addresses several important questions related the content included in Schedule A.

#### A. How detailed should the trading description be in Schedule A?

Schedule A should contain very specific technical descriptions of the WLA, the effluent limitation developed to meet the WLA, the parameter which can be used to offset any pollutant loads exceeding the effluent limitation, and the units/amounts of credits that need to be provided. Two options are offered for reflecting the trading program in Schedule A.

#### I. Options and Examples

Option	Pros	Cons
<b>Option A:</b> Schedule A contains a clear description of the entire trading program (i.e., a detailed description of what is needed in	This would provide a single location for the trading program in the permit.	This is not necessarily the best location to develop and place a supporting program within the permit and could be a

**Commented [NU1]:** This presumes that the discharge is steady state. In reality, fluctuations occur. Number of credit needed will vary over time. Trade can be set up to require minimum amount of credit based on worst case scenario or it can be set up to require just what it needs at particular times. If the first option is used the permit needs to ensure the responsibility to purchase additional credit beyond that specified in the permit is on the permittee.

the entire trading program and how its implementation would offset exceedances of the WLA).		cumbersome approach for the permit compliance officer.
<b>Option B:</b> Schedule A only includes the effluent limits and a brief condition on the trade units and amounts needed to offset exceedances in the effluent limit (i.e., only those items which are specifically germane to the achievement of the effluent limitations). The program details and required trading program components would appear in Schedule D; the Permit Evaluation Report (PER) would analyze how the trade program will accomplish the offset.	This allows the permit to specifically describe the effluent limitation and the specific credits needed to offset any exceedances of the limitation in Schedule A and the details of generating the credit in Schedule D. Streamlining Schedule A and its compliance actions to achieve the effluent limitations.	The public will need to look at more than one Schedule to find the specific trade program requirements.

**Commented [NU2]:** Same comment as NU1.

## II. Recommended Default: Option B

### III. Reasons to Deviate from Default: Are there situations in which this would not be appropriate?

#### B. How does the permit compliance point relate to trade compliance?

#### I. Options and Examples

The NPDES permit has a specific compliance point for the effluent limits established in the permit. In some cases the permittee must be in compliance with the effluent limit at the end of its discharge pipe. In other cases, compliance needs to be achieved at the downstream boundary of the zone of initial dilution (ZID) for acute toxicity levels, or at the downstream boundary of the regulatory mixing zone. In each of these cases, however, the permittee must show that specific numeric effluent limits were achieved at the designated compliance point for that parameter. Traditional physical achievement of numeric effluent limits at the end of a discharge pipe or the mixing zones is not the compliance point for a trade.

**II. Recommended Default:** In a trading program where a permittee achieves compliance with an effluent limit for a specific parameter by using credits, compliance would be determined by the permittee verifying A) that it obtained the required credits outlined in the permit (in required units/amounts); and B) that it obtained those credits within specified time periods to offset any exceedance of that parameter's effluent limitation and C) that the credit existed at the time of purchase.

### III. Reasons to Deviate from Default: none

### IV. Other questions the agencies may want to examine during workshop #3:

- Is there any other compliance point which needs to be described in Schedule A for a trading program to work?
- What relevance, if any, does the compliance point in the TMDL have in the NPDES permit?
- What relevance, if any, does the compliance point in the TMDL have in the trading program?

**Commented [NU3]:** Chae prefer this option also. The two options are actually the same. The difference is where in the permit some of the info on trade mechanism is housed. Option B is just cleaner.

**Commented [NU4]:** Chae disagrees. It is the compliance point even with Trade. Trade will just help the permittee achieve compliance at those compliance points.

**Commented [NU5]:** It is important to put the responsibility on the permittee to ensure the credit actually existed. Along that line, enf liability is on the permittee not the credit seller. The credit seller is outside the NPDES regulatory parameter.

- Is there a specific relationship between the compliance points in the TMDL to the Permit compliance point and how does this play out in the trading program?

### 5.3 Schedule B - Monitoring

The NPDES permit contains language in Schedule B that identifies what actual physical effluent monitoring will be conducted by the permittee. The purpose is to show compliance with the effluent limitations established in Schedule A. The section details the specific parameters to be monitored, monitoring frequency (i.e., daily/monthly/annually), the type of sample required (i.e., grab/composite/continuous), the actual physical form (Discharge Monitoring Report, or DMR) the data will be reported on, and the timing for reporting to the regulatory agency. If the permittee is also implementing other required programs such as pretreatment, biosolids, or reuse water programs, Schedule B will also describe the specific monitoring required in these programs identifying the parameter, frequency of monitoring, and type of sample.

A water quality trading program may have a number of different monitoring elements, thus creating the need to identify which aspects of monitoring are important to describe in Schedule B. At a minimum, it would be important to describe how trades will be tracked to accumulate the needed credits on the schedule necessary to offset the effluent limit exceedances calculated in Schedule A.

Some states may have additional, specific monitoring requirements for a trading program, which could also be described in Schedule B. For example, requirements may extend to monitoring of individual credit-generating project sites or BMPs to show that they are achieving the requirements of the program (i.e., meeting particular quality or performance standards identified for that action) and generating the water quality benefits that offset the effluent limitation (the different types of monitoring are further described in Section 5.3(A)). This kind of project site monitoring is typically part of ongoing credit verification, which indicates that credits remain valid and available for use by the purchasing point source.<sup>1</sup> As such, these data may not be needed by the regulatory agency on a DMR (and in Schedule B) to show whether the permittee is in compliance, provided that the permittee demonstrates a sufficient balance of successfully verified credits. Project site data may then be more appropriate as part of an annual report covering all credit-generating projects under a given permit, described in Schedule D.

Monitoring that is conducted to determine overall program effectiveness, although important to the long-term refinement of models and the trading program, is also not necessarily data the regulatory agency needs or wants on a DMR (unless it obviously demonstrates noncompliance by particular sources). However this broader trading program data still needs to be generated, reviewed, and acted upon if it shows that overall, credit-generating projects are not meeting program requirements. As such, even if it is not included in Schedule B, this general program data must still be described and documented.

For any set of trading-related monitoring requirements under Schedule B, the DMR form should be modified to show how the permittee will report this data.

- A. Should all trading program monitoring be described in detail in Schedule B, or should a general condition be placed in Schedule B that outlines what trading program monitoring mechanisms needs to document?

<sup>1</sup> Project site monitoring requirements for ongoing verification are explored further in the Discussion Guide for “7. Verification Project Site Monitoring, Maintenance, and Record Keeping Obligations.”

**Commented [NU6]:** Monitoring should be focused on the effluent and reported in the DMR. This would not be different than for any facility that is not participating in trade. As for monitoring the credit, I highly recommend that the permittee be required to certify that the amount of credit bought was available. What the permittee does to confirm should be left to the permittee. Generally speaking, it is the responsibility of the permittee to ensure the credit bought is legit. If it is not, the liability for falsely claiming credit must be with the permittee.

**Commented [NU7]:** The annual report covering credit-generating projects should not be required to be submitted under the permit. Given our resources, we may not be able to routinely review these reports. If something is in the report that is erroneous or suspicious but wasn't commented on could be interpreted as approval. This could compromise enforcement actions down the road. The annual report of this type may be required but not submitted. This is the case with BMP's in permit. Maybe annual report should be limited to accounting to compare permit limit to credit reflected after trade. If so, then this type of annual report should be required to be submitted.

Monitoring associated with trading programs can run the gamut from a description of the number and type of best management practices implemented on the ground, to indices of project success (i.e., the number of native trees in a project's area, density of cover crop, survival rate for plantings). As discussed above, all of these data are needed to judge the success of a trade project but not all of the data is necessarily directly related to the achievement of a WLA-based effluent limit.

#### I. Options and Examples

Option	Pros	Cons
<b>Option A:</b> Schedule B requires a ledger of the number of credits generated on the schedule established in the permit.	This provides the permittee with the essential data to report to the regulatory agency on its performance in meeting the requirements of Schedule A.	Does not give permitting agency information of the health of the entire trading program or direction monitoring data about individual project sites.
<b>Option B:</b> Monitoring data provided on the DMR on each project site (monitoring of project performance indices) so the permittee and permitting agency have information on the health of the trading program, as well as compliance by permittees.	This might be valuable information for the permittee and agency.	This is not necessarily information needed to show compliance with the effluent limitations.

**II. Recommended Default:** Option A. This option will provide the data (in a usable form) that the permittee and regulatory agency needs to determine compliance with effluent limitations.

**III. Reasons to Deviate from Default:** If either the permittee and/or the regulatory agency want more information on the project-level workings of the trading program, they can require an annual report to obtain that data in Schedule D of the permit.

**Commented [NU8]:** The reported discharge value in the DMR should be that reflecting trade. There is no room in the DMR for anything else. In the comment section of the DMR, the permittee should specify the amount of credit bought and certify that the credit was available. The DMR is an OMB form. It may be difficult to modify it to accommodate trade accounting. The annual report which should be limited to accounting would have the detailed accounting info.

## 5.4 Schedule C - Compliance Schedules

This section of the NPDES permit should contain any compliance schedules needed to identify the time necessary for a permittee to come into compliance with permits requirements, particularly effluent limitations. For example, if a permit were to establish a WQBEL for a parameter, and that permittee does not have treatment processes to address it, this section would identify the specific date by which the treatment process would be designed, built, and under operation. The time period for completing each step in that process would be established in this Schedule of the permit. The permittee is held accountable for meeting the schedule and failure to meet compliance schedule milestones would result in a permit violation. Compliance schedules recognize that even though the permittee is not yet achieving a particular effluent limitation established in the permit, as long as they are in compliance with the schedule to design, build, and operate the needed treatment, they are considered in compliance with the permit.

In some cases, when the time needed to design, build and operate the treatment solution is lengthy, the permit writer may establish interim WQBELs that the permittee must achieve while building the needed treatment capacity. For example, if a municipal wastewater treatment plant receives a new, more stringent WQBEL for phosphorus but the previous permit contained a phosphorus effluent limitation that the permittee was achieving, the permit writer may include this limitation as an interim limitation while additional treatment

**Commented [NU9]:** There should be nothing special about compliance schedule. The only relevant thing is the interim limit if there is one. The interim limit is the compliance point and trade should be used to comply with the interim limit in the same way as for final limits.

capacity is being constructed. If the previous permit did not contain a phosphorus limitation, the permit writer may determine what the facility may be able to achieve from current effluent DMR monitoring data and place this limit in the permit as an interim limit.

In many cases, the compliance schedules established are within the permit cycle (i.e., within the five year life of the NPDES permit). Permit writers routinely consider whether/how to establish compliance schedules when writing permits. However, in each situation, a critical review of the specific permit is needed to develop a reasonable compliance schedule. Many states have specific guidance on how to establish a permit compliance schedule. The State of Oregon, for example, has an entire Internal Management Directive (IMD) devoted to Compliance Schedules in NPDES Permits ([www.deq.state.or.us/wq/pubs/pubs.htm#imds](http://www.deq.state.or.us/wq/pubs/pubs.htm#imds)). This IMD describes step-by-step the evaluation that a permit writer needs to go through in order to determine the length of the schedule.

**A. How to address compliance schedule situations where a permittee needs longer than 5-years to design, implement and operate its compliance solution?**

In a few situations, the time needed to come into compliance with the established TMDL-based WQBEL may extend beyond the five-year cycle of the typical NPDES permit. In these situations, there are several different ways to approach these lengthy compliance schedules in a permit. For the following options, consider an example where a TMDL establishes a WLA for a facility and that it is then translated into a WQBEL, but the facility may need up to 15 years to come into compliance.

Option	Pros	Cons	Where do we see this
<b>Option A:</b> Describe the entire schedule in a renewal permit and note that a portion of the schedule beyond the first permit cycle will be placed in future renewed permits (e.g., the permit writer may look at establishing a compliance schedule to cover the entire 15-year time period and reflect it in the first 5-year permit with the intent to reflect the rest of the schedule in subsequent 5-year permits as appropriate).	May be the quickest and simplest method to incorporate a compliance schedule.	As the subsequent permits are not in place in year one, implementing this approach leaves everyone with tremendous implementation risk.	This is often used in situations where the compliance schedule may be 6 or 7 years long and not 15 years.
<b>Option B:</b> Describe the entire schedule in the renewal permit but also include the schedule in a separate agency administrative order that covers the entire period, thus providing a regulatory document/tool to cover that period beyond the first 5-year permit (e.g., the permit writer may include a department administrative order reflecting a 15-year schedule and attach it to the draft permit such that it would undergo public review).	Places the entire compliance schedule out for public review. Ties the schedule to a specific enforceable regulatory tool. This has less legal risks than that in the Option A above.	If not designed properly, the order process could require an entity to be out of compliance before the need for an order would be triggered. Also, an administrative order may not provide the legal shield necessary to protect the permittee from third party actions.	These are used often in situations beyond five years but less than ten years.



<b>Option C:</b> Reflect the lengthy compliance schedules in a consent decree issued to the permittee (e.g., permit writer may pursue a consent order reflecting the 15-year schedule).	Regulatory agencies have used formal enforcement orders to cover extended compliance periods.	This judicial order has much less legal risks but is usually has huge pushback from the permittee.	This approach has been used in recent years to cover long compliance schedules in the combine sewer overflow program where 20 – 25 year compliance periods are not uncommon.
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**II. Recommended Default:** Option B, however, the selection of a draft best practice is difficult because each compliance situation has so many different facts related to that particular permittee. For example, if the regulator imposed the same new WQBELs on two municipal permittees with the same size of plant, on the same size river, with the same size mixing zone but a different financial situation, each may have very different abilities to actually design, build, and operate a new treatment process. The permit writer in each case would need to evaluate the ability of the permittee to come into compliance and the time needed to do so. The selection of Option B (as broadly described) would allow the permit writer the opportunity to conduct the needed evaluation and make the compliance schedule determination on a case-by-case-basis. In addition, the established schedule would be placed in both the permit and a second regulatory tool that extends beyond the five years of the permit. This option also provides the public an opportunity to review both documents.

**III. Reasons to Deviate from Default:** The use of a state administrative order to embody the compliance schedule may not provide the legal shield necessary to protect the permittee from third party actions. Some permittees may prefer Option C to address this apparent shortcoming of Option B. However, Option C presumes by its very nature that the permittee has committed a violation and thus needs to be issued a consent order. This is a difficult logic step for a permittee to take when that permittee has just been issued a new requirement. As such, the approach selected by a permit writer is relevant to a trading program as it needs to be compatible with that programs ability to generate the needs credits in a timely fashion.

**B. Compliance schedules must achieve compliance “as soon as possible” and document how the permit writer arrived at a particular compliance schedule length/composition**

The regulatory agencies and permittees may be looking at all the above options as well as hybrids, again, usually based on the question of how much time is needed to come into compliance with a new requirement. This question is often asked and it receives many different answers. The primary response is “as short as possible” or to be in compliance “as soon as possible,” as is required by the federal regulations. Much is written on trying to determine what is “as short as possible” or “as soon as possible.” EPA refers to its “Hanlon Memo” and states often have specific guidance attempting to define this term. The bottom line is that the permit writer must perform a reasonable evaluation of the individual permittee’s situation (including its ability to design, finance, build, and operate the needed treatment capacity). This evaluation needs to be documented and described in the permit evaluation report (or the permit fact sheet) and available for public review to justify the schedule ultimately set in the permit.

In the case of a trading program, the permit writer would need to evaluate data from the facility and the relevant watershed to determine how quickly the permittee could get a program up and running and how soon projects could be started and finished on the ground. In addition to considering the time needed to find project sites and assess their credit- and uplift-generating potential, this assessment would also need to contemplate the time it would take to work through site specific contracts with landowners, the time

**Commented [NU10]:** Option B’s use of compliance order to effect a compliance schedule is not preferred. For EPA, compliance order is not a public process. The public would not have the opportunity to comment on it the way they would for the permit.

necessary to design and install all necessary projects, and any potential time lags between installation of a BMP and that BMP's maturity. Consideration should also be given to time necessary to develop reliable supply of resources for implementing BMPs (e.g., supply of plant materials, irrigation equipment, and labor). Due to these factors, it will take time for the facility to come into compliance with its effluent limitations through trading. Therefore, the permit writer needs as much information as possible to make a professional judgment as to an appropriate time period to complete all this work and actually have projects constructed to offset the effluent limitation.

C. Potential for TMDLs to establish compliance schedules

The whole question of establishing a permit compliance schedule for a newly established more stringent effluent limitation resulting from a new TMDL-based WLA may be in effect mooted if the TMDL itself establishes incremental implementation steps which could be five years in length and placed in corresponding NPDES permits. This of course would place a heavy burden on the TMDL program to develop the needed incremental schedule but it may be at this stage in the process where it is most appropriate.

## 5.5 Schedule D - Special Conditions

In this section of the permit, the permit writer may include requirements for a permittee to develop and implement programs needed to comply with federal regulations, state regulations and/or its permit. For example, the permit writer may include a condition requiring the permittee to develop and implement a biosolids program or a reuse water program or a CMOM (Capacity, Management, Operation, and Maintenance) program. All such conditions support the achievement of water quality standards and the protection of beneficial uses, and are important parts of an overall water quality program at a municipal wastewater treatment facility. A trading program is very similar to these programs and similar conditions may be essential if the facility is to be deemed in compliance with its effluent limitations.

A. How detailed should special conditions be?

One issue to address is how detailed the special condition should be. Essentially, the question is: should the condition outline the essential components of a trading program and require the permittee to develop and implement such a program? Or, should the condition go into detail as to the requirements for each specific component in a specific trading program?

### I. Options and Examples

Options	Pros	Cons
<b>Option A:</b> Include a general condition that describes a trading program and what the program needs to include. The language would be generic in nature but include enough information so that the permittee can develop and implement a viable program.	This requires only general understanding of trading at the outset, which is appropriate for what permittees are likely to know.	Without specific trading program provisions incorporated into the permit, regulators and the public have less information, and therefore less reason to trust that the trading program will deliver the promised water quality benefits.
<b>Option B:</b> Have the permit condition describe in detail what is essentially reflected in the JRA	Providing very detailed program descriptions gives the permittee clear although tight instructions on	The permittee may not have a detailed understanding of what trading programs entail when going through the permit drafting

draft best practice documents.	what to include in the program.	phase, and so there is the risk of ending up with a poorly designed program.
<b>Option C:</b> Begin with a general approach and allow the permittee time to develop a detailed trading program during the beginning stage of a permit. Then provide public review and comment on the more detailed program once it has been developed.	This would give permittees time to evaluate their treatment alternatives and develop a program which fits their particular needs. It would also ensure that the public is well informed as to the specifics of a particular trading program.	This requires two rounds of public review, which may take additional agency and permittee resources.

**II. Recommended Default:** The special condition should be included and written on a case-by-case basis and should reflect the level of knowledge a specific permittee has regarding trading. At some point (whether in the permit or in a supplemental trading program document), the permittee must fully develop and outline its trading program, and the public must be provided adequate opportunity to review and comment. The description of any special trading condition should provide the level of detail needed for that permittee to be successful in developing and implementing a program.

Compliance with a general condition is often determined by whether the permittee has developed the program on the time schedule established in the permit. In a trading program this may, in addition, include specific program monitoring, credit verification, credit life, etc. elements that the permittee must report on annually to the permitting agency. Compliance would thus often depend on the actual submittal of the report and whether the report adequately addressed the required items.

**III. Reasons to Deviate from Default:** N/A

## 5.6 Schedule F - General Conditions

This section of the NPDES permit is primarily set out in federal regulations and is held pretty much intact for every permit. In other words, it is a template not usually modified in any way on a case-by-case basis. It should therefore remain the same in permits that include trading.

## 5.7 Compliance Determination and Appropriate Enforcement Actions

Determination of whether a permittee has complied with a specific permit requirement should be fairly straight forward. State and federal enforcement guidance list types of permit violations and organize them into “classes” of violations. The actual assessment of civil penalties is then based on the severity of the violation, among several other factors—all of which are documented in rule. For example, if a permit contains a specific effluent limitation and a facility’s DMR shows that the facility exceeded that limitation, the compliance officer would examine the data, verify the exceedance, determine the class of the violation, and then consult the enforcement guidance to determine the next step, usually based on the severity of the violation (e.g., how much the limitation was exceeded by). For a violation of minor severity, the compliance officer may then send the permittee a warning letter if it is a first time offence. On the other hand, the enforcement guidance may prompt the compliance officer to directly assess a civil penalty if the permittee is a repeat offender and/or the violation is of major severity. Below are two types of trading-related non-compliance solutions and suggestions for how to address those transgressions appropriately.

A. Insufficient credit balance

In the case of a trading program, one possible violation may be related to the possession of adequate credits on the schedule established in the permit and described in Schedule A of the permit (it will be important, as a threshold matter, to build the systems whereby the DMR report showing excess loading at the discharge point can be over-ridden by a sufficient credit balance). For example, if a the credit schedule requires the facility to generate credits to offset 50 lbs. of nitrogen but the DMR shows credits to offset only 49 lbs of nitrogen, there is clearly a violation. The permit writer, in reviewing the enforcement guidance, may just send a warning for this first time offence for a failure to meet the limit by 4%. Alternatively, if the DMR showed only enough credit to offset 25 lbs of nitrogen, the permit writer would review the enforcement guidance for this failure to provide 50% of the credits and may need to send the violation on for assessment of a civil penalty regardless of whether it is a first time violation. In the first case, the permittee's warning letter would prescribe the actions needed for the permittee to come back into compliance and the time frame for doing so. In the case of the actual penalty assessment, the assessment document would also describe the actions needed to come back into compliance and the time frame.

B. Failure to meet special conditions

Likewise, the failure to provide a required (Special Condition D) annual report would have different consequences for civil penalty if it were just a few days late as opposed to not being submitted at all. Or there could be enforcement consequences if required sections are missing from the annual report even received in a timely fashion. Each state has its own guidance on how to handle each of these types of violations, however, they are usually very similar and it is common practice that a description of what the permittee needs to do to remedy the violation is included in the regulatory agency's enforcement action.

**Recommended Default:** The permit compliance officer needs to follow state and federal compliance and enforcement rules and guidance in determining violations of the permit and taking the appropriate enforcement action. The states and EPA may all have slightly different categories of penalty classes and slightly different penalty amounts but the purpose is the same and that is to deter and correct the violation. Different options for formal enforcement were not offered because each agency already has well developed enforcement programs. The question each agency would need to answer would be whether their enforcement programs would need to be updated to include specific reference to trading programs or are they sufficiently generic to accommodate necessary enforcement actions against failing trade programs.

## **Appendix 1. Summary of trading language in 8 NPDES permits**

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Eight permits containing provisions for trading were reviewed, including three from Ohio, two from Pennsylvania, two from Minnesota and one from Idaho. There was also a Nutrient Trading Plan from the Alpine Creek permit that has been separately outlined. In the sections where trading language was available, it has been identified and briefly summarized. Page numbers correspond to the numbers within the documents themselves and if there was a significant difference, the page numbers in parentheses correspond to the .pdf pages.

### **Ohio**

#### Alpine Cheese

##### **Part C. Schedule of Compliance p. 16**

##### **Nutrient Trading Plan**

The permittee shall immediately implement the January 1, 2006 Nutrient Trading Plan and any subsequent modifications agreed to by the permittee and Ohio EPA. Any modification to the plan shall be submitted to the Northeast District Office for review and approval prior to implementation.

Implementation of the Nutrient Trading Plan is required for the permittee to meet the conditions of the Sugar Creek TMDL. Failure to implement the Nutrient Trading Plan may cause Outfall 002 of the NPDES Permit to be modified to include a phosphorus limit of 1 mg/l as recommended by the Sugar Creek TMDL.

Any nutrient trading credits generated through the approved Nutrient Trading Plan prior to the effective date of this permit shall be considered for final credit by Ohio EPA per page 16 of the Nutrient Trading Plan.

##### **Alpine Cheese Nutrient Trading Plan**

Section C references the Nutrient Trading Plan which was a separate attachment and goes in to more detail on the program.

#### Sugar Creek OH

##### **Part B. Upstream Monitoring Requirements**

Water quality credits may be accrued through participation in water quality trading program developed in accordance with chapter 3745-5 of the Ohio Administrative Code and approved by the Director. p. 12

Requirements within a status report p. 13

##### **Upper LMR TMDL Phosphorus Load Compliance**

Compliance or noncompliance reporting and required contents of said reports. p. 28-29

#### Sugar Creek OH Fact Sheet

##### **Summary of Permit Conditions**

Timing for submitting a water quality trading management plan. p. 2

##### **Total Phosphorus and TMDL Compliance**

Pursuit of water quality trading and the recommended steps p. 12

### **Pennsylvania**

#### Glendale Valley PA

##### **Part C, II. Chesapeake Bay Nutrient Requirements**

##### **A. Definitions p. 19-22 (34-37)**

**B. Use of Credits for Compliance p. 21 (36)**

This is likely the most applicable section even though it is not all that descriptive. It states the permittee is authorized to apply for credits and that they must be certified, verified, and registered. They must be used within a Trading Period for the Compliance Year. There is also information on how to approach a non-compliance notification.

**E. Reporting Requirements p. 21-22 (36-37)**

Required use of electronic system to submit data and forms.

West Branch PA

The West Branch language is identical to that in the Glendale Valley permit

**Part C, I. Chesapeake Bay Nutrient Requirements****A. Definitions p. 20-21****B. Use of Credits for Compliance p. 21****E. Reporting Requirements p. 22****Minnesota**MN River General Permit

Under the Minnesota General Permit it appears the bulk of the information regarding trading is under Chapter 7 Trading Conditions, but there is some in Authorization, Applicability, Limits and Compliance, and Reporting.  
p. 5-8

**Chapter 7. Trading Conditions p. 9-10**

Under Trading Conditions the requirements that apply to all pollutant trading authorized by this permit are listed. From what can be traded, who can trade, how to trade, effective date to trade calculations and restrictions.

Rahr Malting

This permit from the Minnesota Pollution Control Agency listed the components of the permit in chapters. There is language of trading mixed in the chapters, but there are also relevant attachments I have listed which likely have the most information in regards to trading.

**Chapter 1 Surface Discharge Stations****General Requirements p. 16****Replacement Trade Requirements for Existing Trades p. 16-18**

Replacement trades may be necessary should one of the previous trades no longer exist, or are no longer available. The section describes the process for entering into trades, the valuation of credits and the percentages that both MPCA and the permittee receive for the new projects.

**Reporting Requirements 4.2 p. 20**

Permittee shall certify in the Annual Report that the active sites approved by the MPCA for trade credits, remain active according to the MPCA approval.

**Attachment #1 Rahr Malting Water Quality Trade Crediting Calculations p. 1-14 (36-49)**

The process for calculating trading credits during different seasons. It goes into detailed calculation methods. There are methods for calculating credits based on land type and use such as a cattle exclusion calculation.

**Attachment #2 Point-Nonpoint Source Trading Summary p. 1-14 (50-63)**

This attachment explains the value of point-nonpoint source trading. The section covers the concept of trading, what a trade is and the assumptions that are made when trading. It covers trade eligible BMPs and the structure of the trade agreement.

Idaho

**Twin Falls Permit**

A search of the document for the words “trade”, “trading”, and “credit” yields no results. There is information on the general plan changes or other conditions of the permit, but not trading in particular. The language that is available for offsets references another amendment and does not give any detail as to what the offsets are or will be.

**So, here is my summary thought.**

**The enforcement component of trade does not have to be complicated. Trade is simply a way to meet the effluent limit specified in the permit. It is preferable to the permittee when the cost of trade is less than the cost of treatment.**

**Here is how it should work. The permit would specify the limit and provide language that allows for trade. On the permittee’s part, they would sample the discharge (like any other permitted facility) and compare that to the limit. If the discharge exceeds the limit, then permittee can offset the difference with purchase of trade credit. The permittee must provide the following in the existing DMR form (revising the DMR form may be difficult):**

- 1. The discharge value reflecting trade credit. This is the value that would be put into ICIS.**
- 2. In the comment section, specify the original discharge value and the amount of credit purchased.**
- 3. Certify that the credit was available**
- 4. Provide annual report that shows the accounting of permit limit/ actual discharge/ credit bought/ in a table format. The annual report must not include assessment of the credit generating facility. We do not want to find ourselves in a role of having to concur (even thru silence) on the validity of the credit generating project.**

**Potential violations that can result include:**

1. Exceedance of permit limit (even with trade credit, if not enough was bought).
2. Failure to provide information about amount of credit bought in the comment section of the DMR.
3. Failure to certify that the credit was available.
4. Potential criminal/civil violation in cases where credit was certified as available but was not.
5. Important point to make here is that Permittee alone is responsible and liable (not the credit generators). Any enforcement action that may ensue would be with the permittee.
6. An analogy is if a facility bought a treatment equipment and it did not achieve compliance, we would not be looking at the manufacturer of the treatment equipment for enforcement. It is always up to the permittee to make sure they are in compliance.